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 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251

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 Document Control Branch (Document Control Desk)

SUBJECT: Responds to violations noted in Insp Repts 50-250/92-03 &  
 50-251/92-03. Corrective actions: chocks installed against  
 front wheels of racked-down tie breakers & procedures  
 revised w/on-the-spot changes on 911018.

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NOTES: NRR RAGHAVAN, L 05000250  
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P.O. Box 14000, Juno Beach, FL 33408-0420

APR - 8 1992

L-92-082  
10 CFR 2.201

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4  
Docket No. 50-250 and 50-251  
Reply to Notice of Violation  
NRC Inspection Report 92-03

Florida Power and Light Company has reviewed the subject inspection report and pursuant to 10 CFR 2.201, the required response is attached.

If there are any questions please contact us.

Very truly yours,

J. H. Goldberg  
President Nuclear Division

JHG/CLM/cm

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Ross C. Butcher, Senior Resident Inspector, USNRC,  
Turkey Point Nuclear Plant

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ATTACHMENT

REPLY TO A NOTICE OF VIOLATION

RE: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
NRC Inspection Report 92-03

FINDING

10 CFR 50, Appendix A, Criterion 2 requires structures, systems, and components important to safety be designed to withstand the effects of natural phenomena, such as earthquakes, without loss of capability to perform their safety function.

The Turkey Point Final Safety Analysis Report, paragraph 1.3, General Design Criteria, states that this section presents a brief description of related features which are provided to meet the design objectives reflected in the general design criteria. Final Safety Analysis Report, paragraph 1.3.1, Overall Requirements (GDC 1-GDC 5), states that all systems and components designated Class 1 are designed so that there is no loss of capability to perform their safety function in the event of the maximum hypothetical seismic ground acceleration acting in the horizontal and vertical directions simultaneously.

Contrary to the above, the Class 1E 4 kv switchgear was not designed to be seismically qualified with the breakers in the racked-out position and prior to October 10, 1991, there was no procedural requirement to restrain the breakers while in the racked-out position. Also breakers 3AA09, 3AA22, 3AB22, 4AA09, 4AA22, and 4AB22 were normally in a racked-out position which may have affected the Class 1E 4 kv switchgear during a seismic event.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO FINDING

1. FPL concurs with the finding.
2. Cause of the violation:

The root cause of the violation is incomplete information in the design and licensing basis documents concerning seismic qualification of the 4160 volt switchgear with racked-down breakers.

A commitment to maintain the bus tie breakers racked-down was made in Florida Power and Light Company (FPL) letter L-84-157, dated June 24, 1984. Letter L-84-157 transmitted



the Turkey Point Auxiliary Power Upgrade Summary and Design Evaluation and committed to the racked-down breaker configuration which was intended to supplement the seismic interaction protection between the non-safety related C Bus and the nuclear safety related busses. Seismic qualification of the circuit breakers in the racked-down position does not appear to have been considered at that time as evidenced by the documented level of detail of technical design information. In fact, the limitation of seismic qualification to the racked-up configuration was also not addressed in licensing basis documents (e.g., the FSAR). Additionally, FPL believed that maintaining these breakers in the racked-down configuration was standard industry practice. This belief appears to be correct (see Item 6., "Further information", below).

While the breakers were not originally seismically qualified in the racked-down position, they have been subsequently satisfactorily restrained.

3. Corrective steps which have been taken and the results achieved:

1. Chocks were installed against the front wheels of the racked-down tie breakers on October 18, 1991. This action resulted in the breakers being restrained in a seismically qualified configuration in the racked-down position.
2. Procedures 3-OP-005 and 4-OP-005 were revised with On The Spot Changes (OTSC) on October 18, 1991, to include a precaution to chock the front wheels of GE 4160 volt breakers when racked-down or in the test position. The OTSCs were reviewed and approved by the Plant Nuclear Safety Committee on October 22, 1991.

4. Corrective actions which will be taken to avoid further violations include:

A change to the Design Basis Document will be initiated to discuss the seismic qualification of the 4160 volt nuclear safety related breakers in the racked-down position. This change will be completed during the next scheduled update to the Design Basis Document in 1993.

5. The date that full compliance was achieved:

Chocks were installed against the front wheels of the racked-down tie breakers on October 18, 1991. This action



resulted in the breakers being restrained in a seismically qualified configuration in the racked-down position and in full compliance with 10 CFR 50, Appendix A, Criterion 2.

6. Further information:

In June, 1991, FPL was informed by the Institute of Nuclear Power Operations (INPO) that Arkansas Nuclear One had determined that its General Electric 4160 Volt Engineered Safety Features switchgear was being operated in a configuration which had not been seismically qualified. Four circuit breakers were routinely positioned in a racked-down configuration, while the seismic qualification calculations were based on all breakers being racked-up.

In October, 1991, FPL determined that similar unanalyzed switchgear configurations existed at Turkey Point, i.e., racked-out breakers were physically racked-down. As discussed in Item 2., above, FPL committed to keep certain bus tie breakers racked-down. Although the switchgear was not seismically qualified in this configuration, FPL determined that wooden chocks placed against the wheels of the racked-down breakers would provide positive assurance that: (1) there would be no adverse interaction between the racked-down breakers and any safety related equipment; (2) there would be no adverse effects on the safety-related function of the switchgear; and, (3) the seismic qualification of the switchgear would not be adversely affected. FPL also determined that the relays mounted on the front door of the cabinet are installed on the upper end of the door and cannot be directly impacted by the breaker if it was to hit the door. The wooden chocks were installed against the wheels of all racked-down breakers on October 18, 1991.

In November, 1991, FPL completed an investigation of the affected switchgear. This included a review of Turkey Point Plant documents as well as a survey of other utilities that had addressed this issue during Select System inspections. The purpose of these reviews was to determine if the original unblocked configuration of the breakers was acceptable and if the requirement to install wooden chocks on racked-down breakers could be eliminated. FPL determined that it could not be concluded that the unrestrained breakers on rollers would not adversely affect the switchgear cabinet relays and, therefore, chocking of the racked-down breakers should continue.

On February 10, 1992, FPL concluded that operability of the switchgear with racked-down breakers (i.e., prior to the October 18, 1991, installation of the chocks) could not be





assured. On that basis the as-found condition was considered to be reportable in accordance with 10 CFR 50.73(a)(2)(ii)(B). The NRC Operations Center was notified of the reportable condition at 0911, February 10, 1992.

The reporting of the issue to the NRC was delayed in order to determine if the breakers were, or were not, in fact, seismically qualified in the racked-down position. The chocks had been installed as a potentially interim measure to ensure no seismic interactions could occur in the racked-down configuration. Each of the following items mitigated the lack of formal seismic qualification: (1) moving the breakers to the racked-down position reduces the amount of mass being carried by the vertical support members of the cabinet, and lowers the center of gravity of the switchgear; (2) the design seismic loadings used during equipment qualification are well in excess of the response accelerations associated with electrical equipment at Turkey Point; (3) lowering the breaker increases the natural frequency of the critical component in the switchgear (the jackscrew); and (4) the freedom of movement of the breakers is limited to approximately one inch front-to-back, while guide angles on the floor restrain any side to side movement. Therefore, until the operability evaluation of the breakers in the racked-down position was made, the issue was not considered reportable. On a final determination by FPL that operability could not be guaranteed in the previously unrestrained racked-down configuration, FPL made the required report to the NRC in accordance with 10 CFR 50.72 (b)(ii)(B) and 10 CFR 50.73(a)(2)(ii)(B).

